United States
Environmental Protection
Agency

Office of Public Affairs
Region 5
230 South Dearborn Street
Chicago, IL 60604

Illinois Indiana
Michigan Minnesota
Ohio Wisconsin

Superfund Fact Sheet

Hi-Mill Manufacturing Superfund Site Highland, Michigan

October 1989

This fact sheet will tell you about:

- The history of the site
- The long-term investigation that will soon begin
- The Superfund program
- Technical Assistance Grants
- How you can obtain more information

Public Meeting

U.S. EPA is holding a public meeting on October 23, 1989. Representatives from U.S. EPA and the Michigan Department of Natural Resources will be available to answer questions about the Hi-Mill site, the upcoming investigation, and the Superfund program. All interested residents and officials are encouraged to attend.

DATE: October 23, 1989
TIME: 7 p.m.
PLACE: Highland Township Auditorium
Township Hall
205 N. John Street
Highland, MI

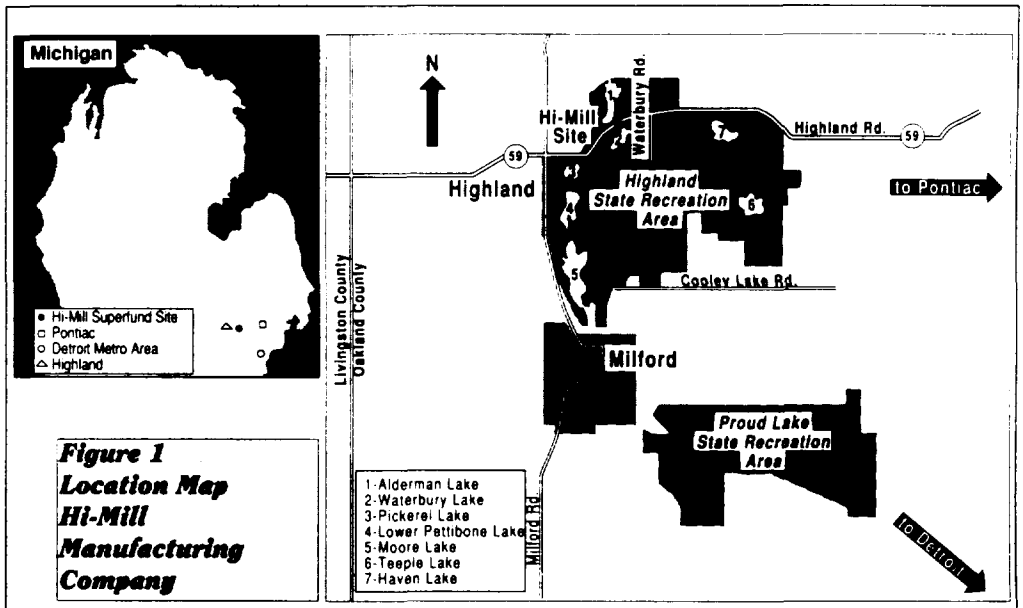


Figure 1 Location Map Hi-Mill Manufacturing Company

■ Introduction

Starting this fall, the U.S. Environmental Protection Agency (U.S. EPA), in cooperation with the Michigan Department of Natural Resources (MDNR), will be conducting a two-part, long-term study to determine the nature and extent of contamination at the Hi-Mill Manufacturing Company **Superfund** site. The study, called a **Remedial Investigation/Feasibility Study (RI/FS)**, will be carried out by the Hi-Mill Manufacturing Company (Hi-Mill) under the terms of a legal agreement called an Administrative Order by Consent **(Consent Order)**. The Consent Order was signed in October 1988 between Hi-Mill and U.S. EPA. Hi-Mill was identified as a **Potentially Responsible Party (PRP)** for the Hi-Mill Superfund site.

The first part of the study, called the Remedial Investigation (RI), involves extensive field sampling and laboratory analysis of soil, **ground water, surface water,** and **sediments** at the site itself and in neighboring areas. The sample results are evaluated to determine how contaminants migrate from the site to the surrounding environment. The RI also helps to assess the risk to human health and the environment associated with these contaminants. The results of the investigation will be

Note: Items in **bold face** appear in the glossary on page 4

continued on page 4

■ Background on the Hi-Mill Superfund Site

Site Location and Description

The Hi-Mill Manufacturing plant is located in southeastern Michigan in Highland Township, Oakland County, about 1.5 miles east of the town of Highland (Figure 1). The irregularly shaped site is approximately three acres, with the Hi-Mill building and parking area occupying most of the site (Figure 2).

Highland Road (M-59), a four-lane divided highway, runs to the west of the site. The rest of the site is surrounded by the Highland State Recreation Area, which is owned and maintained by the MDNR. Much of the Recreation Area is considered **wetlands** property. A 10-acre marsh borders the site to the east, and Waterbury Lake lies about 1,000 feet to the south. The immediate area around Hi-Mill is sparsely populated and rural in nature. The nearest homes are about 2,000 feet east and southeast of the site, along Waterbury Road (Figure 1).

Site History

The Hi-Mill Manufacturing Company began in 1946 as a partnership between Robert F. Beard of Highland and Raymond Unruh of Troy, Michigan; Robert and Richard Beard bought out the business in 1957 and remain the current owners. The Hi-Mill Manufacturing plant makes tubular aluminum, brass, and copper parts.

Hi-Mill operations consisted of two main processes: (1) **anodizing** (or "pickling") to brighten up metals, and (2) degreasing to clean them. As part of plant operations, metals were bathed in tanks containing acids. Hi-Mill employees periodically emptied these tanks of process wastewater containing residues of acids and such **heavy metals** as copper, aluminum, chromium, and zinc. From 1946 until 1979, this wastewater was discharged into a clay-lined lagoon at the Hi-Mill site. The lagoon was about 10 feet deep, 100 feet long, and 100 feet wide.

Prompted by complaints from Hi-Mill employees to the MDNR, on-site wells and the adjacent marsh were sampled in 1972; both were found to contain metals contamination. Waterbury Lake was sampled in 1975 and also was found to be contaminated by heavy metals.

In the fall of 1976, Hi-Mill built a second, smaller lagoon south of the original one. This second lagoon was designed to receive overflow waters from the original lagoon.

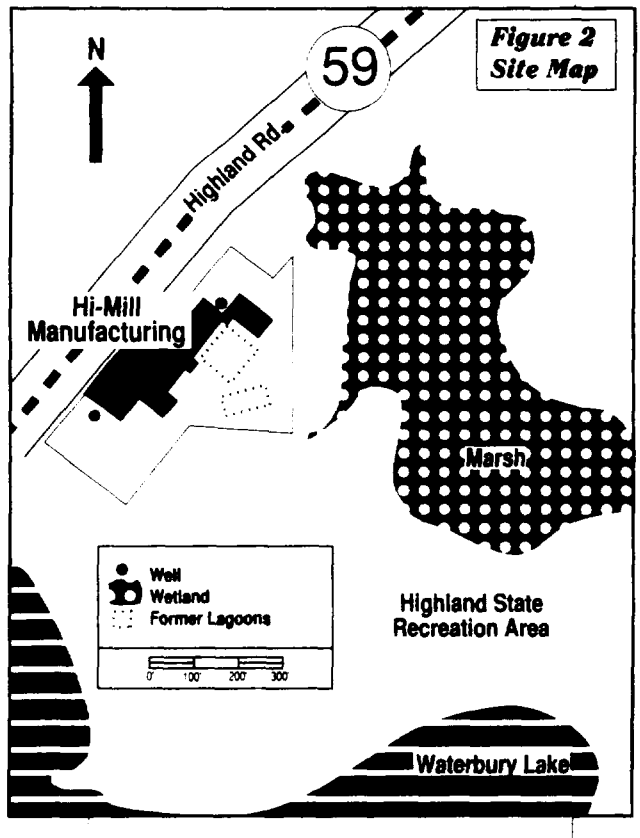


Figure 2 Site Map

On two separate occasions in 1976 and 1977, the big lagoon overflowed into the marsh bordering the site. The overflow came to the attention of U.S. EPA, and Hi-Mill applied for a special **NPDES** permit to authorize the discharges. U.S. EPA did not concur with a permit being issued by the state. MDNR then ordered Hi-Mill to stop discharging untreated wastewaters into the lagoon, requesting that the company design a wastewater recycling program. The recycling system was implemented in 1981, but the already-contaminated lagoons remained a problem.

In September 1983, the small lagoon was filled in. Attempting to clean up the big lagoon, Hi-Mill had been evaporating liquid in the lagoon using a spray evaporation technique, which involved spraying acids and metals from the pickling waste into the air. These particles were carried by the wind and deposited downwind of the plant onto state land around Waterbury Lake. MDNR ordered Hi-Mill to stop this practice in November of 1983.

That same month, under MDNR supervision, Hi-Mill cleaned up the big lagoon by removing 142 cubic yards of contaminated soil, 34,400 gallons of contaminated **sludge**, and 63,300 gallons of contaminated water. Sand was used to fill in the hole.

Following this action, samples taken by the MDNR showed that removal of the water and sludge significantly reduced the levels of metals in on-site soils. However, other samples showed elevated levels of toxic metals in sediments from the nearby wetland and Waterbury Lake.

Samples of two wells taken on-site in 1988 indicated that the drinking water at Hi-Mill was contaminated with **trichloroethylene (TCE).** A new well was installed in 1989 to provide Hi-Mill employees with safe drinking water. Before the new well was hooked up, bottled water was offered at the facility. The two contaminated wells eventually will be abandoned.

■ Remedial Investigation (RI) Objectives and Planned Activities

On June 24, 1988, the Hi-Mill site was proposed to be placed on U.S. EPA's **National Priorities List (NPL)**, a roster of hazardous waste sites eligible for investigation and cleanup under the Superfund program. Following this proposal, a Consent Order was signed between Hi-Mill and U.S. EPA on October 5, 1988, authorizing Hi-Mill to conduct a Remedial Investigation and Feasibility Study. Field work for the RI is scheduled to begin this fall.

The objectives of the RI are to:

- Determine the characteristics and extent of contaminants.
- Define the pathways of contamination.
- Define physical features that could affect contaminant migration and possible remedies.
- Quantify the risk to public health and the environment.
- Gather all information necessary to explore possible remedies during the FS.

The RI has been designed as three separate investigations: (1) site soils study, (2) on-site and off-site ground-water **(hydrogeology)** study, and (3) marsh surface waters and sediments study. Each study is described below.

Site Soils Study

Soil samples will be collected and analyzed for aluminum, copper, chromium, nickel, silver, and zinc. These are the contaminants expected to be present at elevated levels because of plant operations. To determine the natural, or "background," level of metals present in the area, samples also will be taken from nearby soils. By comparing the results of these natural samples with on-site samples, researchers will be able to determine the level of contamination caused by site activities.

Hydrogeological Study

Because contaminants tend to migrate through local ground-water flow, it is essential at any hazardous waste site to investigate regional ground water. At the Hi-Mill site, **monitoring wells** will be installed to study regional patterns of ground-water flow and to determine if and to what extent the ground water has been contaminated.

Surface Water and Sediment Study

Because wastewaters overflowed from the Hi-Mill lagoons into the neighboring marsh, surface water and sediments from the marsh will be sampled to determine the level of contamination. As in the soils study, samples will be analyzed for copper, chromium, aluminum, silver, nickel, and zinc. Surface water and sediment samples will also be collected from different areas in the wetland and Waterbury Lake to determine if contamination exists.

■ Technical Assistance Grants

U.S. EPA recently introduced a new program which enables groups of interested citizens to obtain assistance in interpreting and understanding data generated during the remedial process. Technical Assistance Grants, or TAGs, provide up to $50,000 to community groups wishing to hire consultants to interpret sampling results, reports, and other documents. Thirty-five percent of the requested funding amount must be matched by the group. For example, if $50,000 were requested, the group must provide an additional $17,500 or obtain it from some other source. The matching funds may be obtained from in-kind services and originate from any non-federal source. TAGs cannot be used to duplicate field or laboratory work. They may be used only to understand or interpret existing documents and activities conducted at the site.

Educational institutions, municipalities, or government agencies are not eligible to receive TAGs. However, government officials may belong to a community group requesting a TAG.

Technical Assistance Grants, or TAGs, provide up to $50,000 to community groups wishing to hire consultants to interpret sampling results, reports, and other documents.

The Hi-Mill Superfund site is at an early stage in the remedial investigation. A TAG may be more useful several months from now. However, the process for obtaining a TAG is fairly complex, and this early stage may be a good time to learn more about the program.

More information about TAGs is available in the information repository set up for the Hi-Mill Superfund site or directly from U.S. EPA Region 5 in Chicago. The location of the information repository and a toll-free number for U.S. EPA are listed on the back page under "For More Information."

Glossary

Anodizing ■ A process that uses electrical current to brighten, coat, and protect metals.

Aquifer ■ A layer of rock or soil below the ground surface that can supply usable quantities of ground water to wells and springs.

Consent Order ■ An agreement between U.S. EPA and the Potentially Responsible Parties (PRPs) that describes the specific activities the PRPs will conduct at a hazardous waste site.

Ground Water ■ Precipitation (rain, snow, hail, etc.) that soaks into the ground and eventually collects in the aquifer. When ground water accumulates in usable quantities within an aquifer, it may be used as a source for drinking water or other purposes.

Heavy Metals ■ Some heavy metals, including arsenic, lead, chromium, cadmium, mercury, and zinc, can be toxic at relatively low concentrations.

Hydrogeology ■ The nature and distribution of aquifers in a geologic system. This includes the patterns of ground-water flow in a region.

Monitoring Wells ■ Special wells drilled into the earth to study ground water. Monitoring well samples are taken to determine the nature, extent, and distribution of contamination in ground water. Water elevations from monitoring wells are also used to determine ground-water flow direction.

National Priorities List (NPL) ■ A federal roster of uncontrolled hazardous waste sites that actually or potentially threaten human health or the environment and are eligible for investigation and cleanup under the federal Superfund program.

NPDES ■ National Pollutant Discharge Elimination System Permit. Establishes levels of contaminants that may be present in wastewaters discharged from industrial facilities.

Potentially Responsible Party (PRP) ■ Any individual(s) or company(ies)(such as owners, operators, transporters, or generators) potentially responsible for, or contributing to, the contamination problems at a Superfund site. Whenever possible, U.S. EPA requires PRPs, through administrative and legal actions, to clean up hazardous waste sites they may have contaminated.

Remedial Investigation/ Feasibility Study (RI/FS) ■ A two-part study of a Superfund site that must be completed before a cleanup can begin. The first part, the Remedial Investigation, determines the nature and extent of contamination at a Superfund site. The second part, or Feasibility Study, evaluates several alternative remedies (including no action) that are designed to address the problems identified during the Remedial Investigation.

Sediment ■ Sand, soil, gravel, and decomposing animals and plants that settle to the bottom of a stream, lake, river, or other body of water.

Sludge ■ A highly-concentrated solid or semisolid by-product of municipal or industrial wastewater treatment processes.

Superfund ■ The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Superfund Amendments and Reauthorization Act (SARA) was passed by Congress in 1986 to update and improve the old Superfund law. Superfund authorizes the federal government to respond directly to releases, or threatened releases, of hazardous substances that may endanger public health, welfare, or the environment. CERCLA established a $1.6 billion Hazardous Waste Trust Fund made up of taxes on crude oil and commercial chemicals. When the Superfund was reauthorized by Congress in 1986, the fund was increased to $8.5 billion. U.S. EPA is responsible for managing the Superfund program.

Surface Water ■ Streams, lakes, ponds, rivers, or any other body of water above the ground.

Trichloroethylene (TCE) ■ An organic compound used primarily as a solvent for oils, waxes, and fats. Short-term exposure to high concentrations of TCE can irritate the eyes and mucous membranes and can produce narcotic effects. Long-term exposure to this compound may cause cancer.

Wetlands ■ Areas of land (such as marshes or swamps) containing substantial soil moisture.

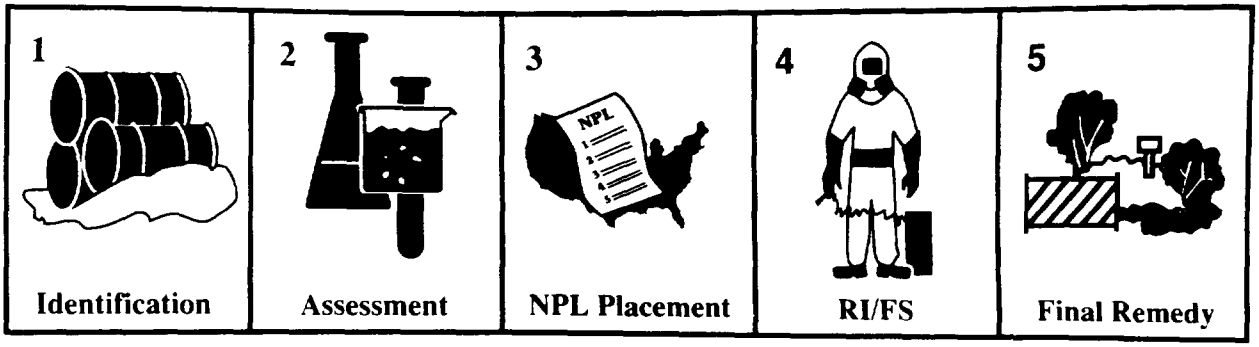
Introduction

continued from page 1

presented in an RI report and also summarized in a fact sheet similar to this one. More detailed information on the upcoming RI is presented on page 3 of this fact sheet.

The Feasibility Study (FS) will examine several alternative remedies for cleaning up contamination at the Hi-Mill site; remedies will be based primarily on cost and effectiveness in protecting public health and the environment. An FS report will be prepared to detail each alternative. U.S. EPA will propose a preferred alternative to the community, and interested individuals and groups will have an opportunity to comment at that time. U.S. EPA, taking public comments into account, will then select a final remedy for the site.

■ The Superfund Process



The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as Superfund) was enacted by Congress in December 1980. The new law established a program to investigate and clean up actual and potential releases of hazardous substances at sites through-out the United States. In 1986, Congress reauthorized the law under the Superfund Amendments and Reauthorization Act (SARA), and increased the size of the fund from $1.6 billion to $8.5 billion. U.S. EPA administers the Superfund program in cooperation with individual states.

The Superfund process involves several steps after a potential site is initially identified **(1)**. After a preliminary inspection of the site is conducted by U.S. EPA or the state agency, the site is evaluated for its potential impact on human health and the environment **(2)**. If the site poses a serious threat to the community, it is placed on the National Priorities List (NPL), a roster of the nation's worst hazardous waste sites **(3)**.

After the site is placed on the NPL, U.S. EPA plans and conducts a remedial investigation and feasibility study (RI/FS) **(4)**. The RI is a long-term study to identify the nature and extent of contamination at the site. Based on the results of the RI, the FS then evaluates the alternatives for addressing the site contamination.

If potentially responsible parties (PRPs) can be identified and are willing to cooperate with U.S. EPA, one or more of the PRPs may conduct the RI/FS. All work conducted by the PRPs is closely monitored by state and federal agencies.

After the public has had an opportunity to comment on the alternatives presented in the FS, U.S. EPA chooses the most appropriate alternative as a final remedy for the site. The chosen remedy is then designed and implemented **(5)**.

At each site where a long-term investigation and cleanup takes place, U.S. EPA prepares a community relations plan to provide information about community concerns and enhance communication between U.S. EPA and the local community.

At any time during this process, U.S. EPA may conduct an emergency response action if the site becomes an immediate threat to public health or the environment.

■ Mailing List

U.S. EPA compiles a mailing list of interested residents for each Superfund site. If you wish to be added to the mailing list for the Hi-Mill Superfund site, or know of anyone else who would, please fill out this form, detach, and mail to:

Dan O'Riordan (5PA-14)
Office of Public Affairs
U.S. EPA Region 5
230 South Dearborn Street
Chicago, IL 60604

Name_____

Affiliation _____

Address _____

City _____ State _____ Zip _____

EPA

■ For More Information

U.S. EPA AND MDNR CONTACTS

The following U.S. EPA and MDNR personnel may be contacted if you have further questions about the Hi-Mill Superfund site:

Dan O'Riordan
Community Relations Coordinator
Office of Public Affairs (5PA-14)
U.S. EPA Region 5
(312) 886-4359

Mary Elaine Gustafson
Remedial Project Manager
Office of the Superfund (5HS-11)
U.S. EPA Region 5
(312) 886-6144

Deborah Larson
Project Manager
Environmental Response Division
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, MI 48909
(517) 373-4825

INFORMATION REPOSITORY

Information repositories contain laws, work plans, community relations plans, technical reports, and other documents relevant to the investigation and cleanup of Superfund sites. An information repository for the Hi-Mill Superfund site has been set up at the following location:

Highland Township Library
205 West Livingston
P.O. Box 277
Highland, MI 48031
(313) 887-2218
Contact: Linda LaClair, Library Director

U.S. EPA Region 5

Toll Free:
1-800-621-8431

EPA

U.S. Environmental Protection Agency
Region 5
Office of Public Affairs (5PA-14)
230 South Dearborn Street
Chicago, IL 60604